

U.S. Application Serial No.: 10/576,338
Filed: April 17, 2006
Docket No.: 11348-018-999
CAM No.: 601909-999018
Response to Office Action Mailed June 28, 2007

REMARKS/ARGUMENTS

Reconsideration and withdrawal of the rejections of the application are respectfully requested in view of the above amendments and following remarks, which place the application into condition for allowance.

I. STATUS OF THE CLAIMS AND FORMAL MATTERS

This Amendment is submitted in response to the non-final Office Action mailed June 28, 2007 (the “Office Action”). Claims 12-23 (renumbered above as 11-22) are pending in the application and are rejected in the Office Action. Claims 11, 21 and 22 (formerly claims 12, 22 and 23, respectively) are independent.

In the Office Action, the Examiner:

- objected to claims 13-20 under 37 C.F.R. § 1.75(c) as being of improper dependent form for failing to limit the subject matter of a previous claim;
- objected to the amended claim listing;
- rejected claims 12-16 and 18-23 under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 4,748,460 to Piatt *et al.* (hereinafter “Piatt”) in view of Japanese Publication No. 10-006566 to Masatoshi (hereinafter “Masatoshi”); and
- rejected claim 17 under § 103(a) as allegedly being unpatentable over Piatt in view of Masatoshi, and further in view of U.S. Patent No. 6,286,927 to Taneya *et al.* (hereinafter “Taneya”).

As outlined above, Applicants have amended renumbered claims 11, 13-19, 21 and 22. As can be seen above, Applicants have amended renumbered independent claims 11, 21 and 22 to include the subject matter of renumbered claim 12. Accordingly, Applicants have canceled claim 12 without prejudice to its subsequent prosecution in any continuing application or disclaimer of the proprietary rights set forth therein. In addition, as outlined above, Applicants have amended the figures. Following entry of this Amendment, renumbered claims 11 and 13-22 remain pending in the application.

All amendments are fully supported by the originally-filed specification and/or drawings of the present application. It is believed that no new matter has been added as a result of the claim amendments and the amendments to the figures. The claim amendments

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made herein do not represent acquiescence in the Examiner's rejections, but rather are made only to expedite prosecution of the present application and/or maintain consistency in claim language. Applicants expressly reserve the right to pursue the subject matter of any previously presented claims in one or more continuation applications. As discussed more fully below, Applicants respectfully submit that each of the currently pending claims define features that are not disclosed, taught or suggested by the prior art of record and respectfully request allowance of same.

II. THE OBJECTIONS TO THE CLAIMS

In the Office Action, claims 13-20 are objected to under 37 C.F.R. § 1.75(c) as being of improper dependent form for failing to limit the subject matter of a previous claim. The Examiner states that claims 13-18 and 20 (now claims 12-17 and 19, respectively) are dependent on canceled claim 1 and claim 19 (now claim 18) is objected to because it depends on objected claim 18 (now claim 17). In response, as outlined above, Applicants have amended the claims so they depend on currently pending renumbered independent claim 11.

In addition, the amended claim listing is objected to because it states that claims 1-11 are canceled, however, there are only 10 original claims in the original claim listing. In response, as outlined above, Applicants have revised the claim listing to indicate that claims 1-10 have been canceled and renumbered the pending claims as 11-22.

Accordingly, based on the above, Applicants respectfully request that the claim objections be withdrawn.

III. THE CLAIM REJECTIONS UNDER 35 U.S.C. § 103(a)

In the Office Action, claims 12-16 (renumbered as 11-15) and 18-23 (renumbered as 17-22) are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Piatt in view of Masatoshi. In addition, claim 17 is rejected under § 103(a) as allegedly being unpatentable over Piatt in view of Masatoshi, and further in view of Taneya. The rejections are traversed for at least the following reasons.

As recited in revised independent claim 11, an embodiment of the present invention is directed to a liquid jet head comprising, *inter alia*, a substrate adapted to be mounted on a liquid ejecting instrument and a control unit "wherein said control unit is positioned on said substrate." Applicants respectfully submit that the cited references, either alone or in

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combination, fail to disclose such a liquid jet head.

In numbered paragraph 5 of the Office Action, the Examiner rejects claim 12 (now claim 11) stating that Piatt teaches all of the elements of claim 12 (now claim 11) except for a measurement means for acting, without physical contact with the medium, to measure the distance between the liquid jet head and the medium, said measurement means being coupled to said control unit, wherein said measurement means is positioned on the substrate. To cure the deficiencies of Piatt, the Examiner cites Masatoshi.

As previously stated, however, claim 11 has been amended to include the subject matter of claim 13 (now claim 12). Also in numbered paragraph 5 of the Office Action, the Examiner rejects claim 13 (now claim 12) stating that Piatt discloses the claimed invention except for the control unit being positioned on the substrate. The Examiner then asserts that it would have been obvious to a person of ordinary skill in the art at the time the invention was made to position the control unit on the substrate because it has been held that rearranging parts of an invention involves only routine skill in the art and cites *In re Japiske*, 181 F.2d 1019 (C.C.P.A. 1950) in support. Applicants respectfully disagree.

The present invention is directed to a liquid jet head, for example, to be fitted to a non-contact writing instrument, comprising a substrate 7 that supports a liquid jet system 9, a measurement means 13, and a control unit 10 where all are positioned on the substrate 7. Positioning the control unit directly on the substrate provides the advantage of having a modular head that ensures that exchanges and replacements are easy and efficient. Furthermore, such a disposition reduces the span or length of wiring needed for the writing instrument. For example, power and control signals for the writing instrument now have a shorter distance to travel from the sensors of the ejection head along to the control unit in the housing body and back to the liquid ejection heads for ink ejection.

In *Ex parte Chicago Rawhide Mfg. Co.*, the Board of Patent Appeals and Interferences held that “[t]he mere fact that a worker in the art could rearrange the parts of the reference device to meet the terms of the claims an appeal is not by itself sufficient to support a finding of obviousness. The prior art must provide a motivation or a reason for the worker in the art...to make the necessary changes in the reference device”. *Ex parte Chicago Rawhide Mfg. Co.*, 223 U.S.P.Q. 351, 353 (Bd. Pat. App. & Inter. 1984).

Indeed, all of the cited references explicitly position the control unit inside the housing of the writing device and none of the cited references state an eventual disadvantage to doing it thus. Therefore, a worker in the art would not have been motivated to change the positioning of the control unit, knowing that it performed satisfactorily in the prior art, and that positioning the control unit on the substrate was an additional step, in which considerable effort was necessary in order to dispose the control unit satisfactorily on a substrate, because the surface area of substrate is quite limited.

Therefore, because the cited references fail to provide a reason or a motivation for changing the position of the control unit, Applicants respectfully request that the Section 103 rejections be withdrawn.

Further, in order to establish *prima facie* obviousness of a claimed invention, the prior art reference or references must teach or disclose all the claim limitations. *M.P.E.P.*

§ 2143.03 (*citing In re Royka*, 490 F.2d 981 (C.C.P.A. 1974)). Therefore, because the combination of Piatt, Masatoshi and Taneya at least fails to teach or disclose a liquid jet head having a substrate adapted to be mounted on a liquid ejecting instrument and a control unit “wherein said control unit is positioned on said substrate.” the Section 103 rejections must fail as a matter of law. Accordingly, Applicants respectfully request that the Section 103 rejections be withdrawn.

For at least the foregoing reasons, it is believed that independent claim 11 patentably distinguishes over the relied upon portions of Piatt, Masatoshi and Taneya, either alone or in combination, and is therefore allowable. Independent claims 21 and 22 are similar in scope to claim 11 and are therefore allowable for similar reasons. Further, claims 13-20, which depend from claim 11, are allowable as well.

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CONCLUSION

In view of the above amendments and remarks, Applicants respectfully request that the Examiner reconsider pending claims 11 and 13-22 with a view towards allowance. The Examiner is invited to call the undersigned attorney at (212) 326-3996 if a telephone call could help resolve any remaining issues.

Should any additional fees be required by reason of this Amendment and Response, please charge such fees to Jones Day deposit account no. 50-3013.

Date: September 28, 2007

Respectfully submitted,


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